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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/849,977

05/20/2004

George F. Fanta

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08/12/2005

USDA-ARS-OFFICE OF TECHNOLOGY TRANSFER  
NATIONAL CTR FOR AGRICULTURAL UTILIZATION RESEARCH  
1815 N. UNIVERSITY STREET  
PEORIA, IL 61604

EXAMINER

BISSETT, MELANIE D

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 08/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/849,977

Applicant(s)

FANTA ET AL.

Examiner

Melanie D. Bissett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

1. The previous rejections have been withdrawn based on the amended claims. However, upon reconsideration and the finding of new prior art, the claims previously noted as allowable have been rejected as follows.

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-17 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fanta et al. ("Formation of Hydrophilic Starch Coatings on Polyethylene Films" from *Journal of Applied Polymer Science*) in view of Weaver et al. It is the examiner's position that the earliest effective filing date for the current application is 20 November 2002 since the parent US application does not support the graft copolymer limitations.

4. Fanta discloses thin starch coatings for polyethylene film substrates, where the coatings are jet cooked solubilized starch solutions from waxy or high amylose cornstarch and are applied in amounts of 0.03-0.05 mg per cm<sup>2</sup> of substrate (abstract). Because the reference teaches the claimed application amounts, it is the examiner's position that the reference teaches the claimed thickness of about 1 micron or less. Coatings appear to have nodules (Figure 2). Also, because the reference teaches application of the coatings to polyethylene bags (p. 1783), it is the examiner's position that the reference suggests applying the coatings to a three-dimensional object.

5. Although the reference teaches hydrophobic substrates coated with solubilized starch coatings, Fanta does not disclose graft copolymers of solubilized starch. Weaver

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teaches starch-containing polymer compositions for absorbing water in diapers, surgical pads and sheets, and paper towels (abstract). Starch-polyacrylonitrile graft polymers are formed, where the starch used has been solubilized (col. 2 lines 44-49; col. 3 lines 43-51). The starch-polyacrylonitrile graft copolymers have improved water absorption (abstract). Thus, it is the examiner's position that it would have been prima facie obvious to use starch-polyacrylonitrile graft copolymers in the coatings of Fanta's invention to produce coatings of improved water absorption.

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-17 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-23 of U.S.

Patent No. 6,709,763 in view of Weaver et al.

8. The patented claims are drawn to articles of manufacture comprising a hydrophobic substrate having a solubilized starch coating with a thickness of about 1

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micron or less. The patented dependent claims teach the limitations of the current claims with the exception that the patented claims do not specify the use of graft copolymers of solubilized starch. Weaver teaches starch-containing polymer compositions for absorbing water in diapers, surgical pads and sheets, and paper towels (abstract). Starch-polyacrylonitrile graft polymers are formed, where the starch used has been solubilized (col. 2 lines 44-49; col. 3 lines 43-51). The starch-polyacrylonitrile graft copolymers have improved water absorption (abstract). Thus, it is the examiner's position that it would have been prima facie obvious to use starch-polyacrylonitrile graft copolymers in the coatings of the patented invention to produce coatings of improved water absorption.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (571) 272-1068. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Melanie D. Bissett  
Patent Examiner  
Art Unit 1711

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